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A look back 75 years at Little Boy, the crew, the plane and the Lab's first mission

Hours before the sun would rise over Tinian island on the morning of August 6, 1945, a B-29 airplane was positioned above a specially built bomb-loading pit, as crews readied it with cargo unlike anything the world had ever known.

Preparations on the tiny Pacific island—nearly 6,600 miles from Los Alamos and about 1,500 miles from its intended target in Japan—had begun months before on April 3. And months before that, pilot Paul Tibbets Jr. and his crew had practiced dropping dummy concrete bombs on targets in Utah. Even years before that, development of this cargo destined for Japan began in secrecy under the direction of a physicist and an Army general in the mountains of Northern New Mexico.

It was all leading to one day that would help end years of bloodshed and change the world forever.

In the early-morning darkness of that historic day 75 years ago, Colonel Tibbets and his 11-man crew boarded the plane and began their preflight preparations. As the plane's engines roared and its propellers spun, Tibbets looked out an open window at the crowd amassed on the runway. Sticking his head out just above the plane's painted name—Enola Gay, for Tibbets' mother—the 30-year-old husband and father gave a wave and a slight smile and began to taxi.

At 2:45 a.m., the plane took off, and at 8:15 a.m., the crew of the Enola Gay released Little Boy – the world's first nuclear weapon that Los Alamos scientists had developed – over the city of Hiroshima.

'I had to go fly airplanes'

Tibbets' career as a military pilot fulfilled a childhood dream, encouraged by his mother while his father wanted him to become a doctor.

"I was able to get into an airplane, fly it—I soloed—and I knew then that I had to go fly airplanes," Tibbets said, according to a 2002 interview in *The Guardian*.

In 1937, Tibbets withdrew from the University of Cincinnati's medical school and joined the U.S. Army Air Corps (which became the U.S. Air Force in 1947).

Tibbets piloted various aircrafts; by mid-1943, he was flying a new, innovative bomber: the B-29. The four-engine, propeller-driven bomber was the most sophisticated aircraft of its kind during World War II, says Kirk Otterson, from the Office of Nuclear and Military Affairs. It could fly high, far, and, he added, carry a large bomb.

Tibbets had established himself as an adept B-29 pilot as well as a skilled military officer and leader. So upon landing a routine B-29 test sortie in Nebraska in September 1944,

Tibbets was told to pack his bags and be in Colorado Springs at 9 a.m. the next day.

There, Tibbets learned the U.S. government's most closely guarded secret—scientists in Los Alamos, New Mexico, were harnessing atomic energy to create the world's first nuclear weapon and he was being tapped to deliver this atomic bomb to help end World War II.

"When I got the assignment, [I knew] it was going to be an emotional thing," Tibbets told *The Columbus Dispatch* in 2005. "We had feelings, but we had to put them in the background. We knew it was going to kill people right and left. But my one driving interest was to do the best job I could so that we could end the killing [of World War II] as quickly as possible."

Shortly after the meeting in Colorado, Tibbets took command of the newly created unit of 1,800 men who trained under extraordinary secrecy and security in an isolated, mostly uninhabited location in Utah at Wendover Airfield. Most of the airmen knew only as much as they needed to know to perform their duties.

The bombs, Los Alamos

Meanwhile, work to design and build the first atomic bombs at Project Y—the code name for the secret laboratory in Los Alamos—continued as part of the Manhattan Project, says Alan Carr, senior historian at the National Security Research Center, the Lab's classified library.

This effort to beat the enemy in developing nuclear technology eventually resulted in Little Boy, the gun-type uranium bomb that would be released by Tibbets and his crew during the Hiroshima mission. Los Alamos scientists also developed Fat Man, the implosion-type plutonium bomb that another pilot, crew, and airplane delivered to Nagasaki three days later. It was the second nuclear mission—and the last ever.

At 9,700 pounds, 10 feet long, and just over 2 feet in diameter, Little Boy was bigger than any bomb Tibbetts had ever seen. He recalled asking Los Alamos Director J. Robert Oppenheimer how to get away from the bomb after it was released.

"[Oppenheimer] said, 'You can't fly straight ahead because you'd be right over the top when it blows up and nobody would ever know you were there,'" Tibbets recalled in 2002. "'Turn 159 degrees as fast as you can and you'll be able to put yourself the greatest distance from where the bomb exploded.' I had dropped enough practice bombs to realize … I would have 40 to 42 seconds to turn 159 degrees. I went back to Wendover [Airfield, Utah] as quick as I could and took the airplane up. I got myself to 25,000 feet, and I practiced turning, steeper, steeper, steeper and I got it where I could pull it round in 40 seconds. The tail was shaking dramatically and I was afraid of it breaking off, but I didn't quit. That was my goal. And I practiced and practiced until, without even thinking about it, I could do it in between 40 and 42 [seconds] all the time."

For nearly a year, hundreds of practice bombs were dropped from B-29s on targets surrounding the Utah airfield, while scientists and engineers in Los Alamos worked to determine the correct weight distribution and shape of the aerodynamically unique bombs, Carr said. Meanwhile, special pits were constructed with hydraulic lifts to hoist the bombs into the B-29s' bomb bays.

Los Alamos to "Destination"

In late May 1945, Tibbets and his unit transferred to Tinian island, where the Enola Gay would launch its mission several months later.

"One of three islands in the Northern Marianas, Tinian was chosen as the launching point for both the Hiroshima and Nagasaki missions based on its proximity to Japan and easy sea access for supplies," Carr says. "The island's code name was Destination."

Completed bomb components and about half of the United States' supply of uranium were taken by train from New Mexico to San Francisco, where they were loaded aboard a Navy heavy cruiser and delivered to the island, while the other half of the uranium therre. Little Boy was then readied for the Hiroshima mission.

Around this same time, on July 16, 1945, Los Alamos scientists conducted the Trinity test, detonating a plutonium device, code-named Gadget, in the New Mexico desert to verify the success of Fat Man in war.

Shortly thereafter, Tibbets and his crew received notice that the 6th of August would be the day with the best weather for the Hiroshima mission. It was around 4 p.m. on August 5 that Tibbets got word President Harry Truman had authorized the mission.

The Enola Gay was airborne less than 12 hours later.

The Hiroshima mission

Little Boy's target was the distinctive T-shaped Aioi Bridge, which was chosen, Otterson says, because it could easily be seen from the air and was also a Japanese army headquarters site in the center of the city.

With the target in sight, Tibbets counted down the seconds aloud for the crew . . . three, two, one . . . until the release of Little Boy. There was no doubt when the atomic bomb left the airplane. It was released from the plane's front bomb bay at an altitude of 31,000 feet. Little Boy exploded less than one minute later, about 1,500 feet above Hiroshima.

"The [plane's] nose lurched up—I mean it lurched dramatically—because if you immediately let 10,000 pounds out of the front, the nose has got to fly up. We made our turn, we leveled out, and at the time that that happened I saw the sky in front of me light up brilliantly with all kinds of colors," Tibbets recalled. "At the same time, I felt the taste of lead in my mouth. And where we had seen the city on the way in, I [now] saw nothing but a

bunch of boiling debris with fire and smoke and all of that kind of stuff. It was devastating to take a look at it."

The Enola Gay and its crew had carried out a flawless mission with no opposition from Japanese fighters and delivered the first nuclear bomb used in war, Carr says.

The blast from Little Boy destroyed five square miles of the city, killed about 64,500 people, and injured countless others, according to the 1954 Army Pathological Study. Many more died in the ensuing months and years from injuries and radiation. (The blast from Fat Man, released above Nagasaki, is estimated to have killed about 39,214, according to the study.)

"I have been convinced that we saved more lives than we took," Tibbets said. "It would have been morally wrong if we'd have had that weapon and not used it and let a million more people die," he told an interviewer for the documentary *The Men Who Brought the Dawn*.

A few days after another crew dropped the second nuclear bomb during the Nagasaki mission, the Japanese government surrendered. World War II's official end was Sept. 2, 1945. As many as 50 million to 80 million (or more) people are estimated to have died during the war's six years, Carr says.

Aftermath

No one has used atomic weapons in combat since 1945, though the United States uses them every day as a deterrent.

"Today at Los Alamos National Laboratory," Carr said, "we're in the business of making sure another world war never happens. The Lab's weapons work makes sure the world is a safer, more secure place. Nuclear weapons, as a deterrent, do that. Thus far, this transformative technology has helped render world wars obsolete."

As just one reminder of its role as a means to the end of World War II, the Enola Gay now is on permanent display in the Smithsonian National Air and Space Museum's Steven F. Udvar-Hazy Center. Meanwhile, the crews received various military honors, said Riz Ali, director of the National Security Research Center (NSRC), which is Lab's classified library. Particularly commendable, noted Ali, who is also a retired Air Force Colonel, was Tibbets' leadership not only in executing the mission, but also during the many rigorous months of training those involved stateside and on Tinian island.

Tibbets was part of a small group invited to meet with President Truman at the White House, according to Tibbets' 2002 *Guardian* interview. Truman asked Tibbets, "'What do you think?' I said, 'Mr. President, I think I did what I was told.' He [the president] slapped his hand on the table and said, 'You're damn right you did, and I'm the guy who sent you. If anybody gives you a hard time about it, refer them to me.'"

Tibbets retired from the military in 1966 as a brigadier general. He went on to help start an air taxi service in Ohio and helped run the business until 1985. Tibbets died at the age of 92 on November 1, 2007, in Columbus, Ohio. None of the other crew members of the Enola Gay are still alive today.

In various interviews in the decades after delivering the world's first nuclear bomb, Tibbets never once expressed regret. It was his patriotic duty, Tibbets said time and again.

"I knew we did the right thing … I thought, yes, we're going to kill a lot of people, but by God we're going to save a lot of lives," he said.

But he also realized that once Little Boy was released, marking the beginning of the Atomic Age, nothing would ever be the same. Albert Einstein famously said the world became a different place after the atom was split, referring to nuclear fission, the source of the atomic bomb's explosive power.

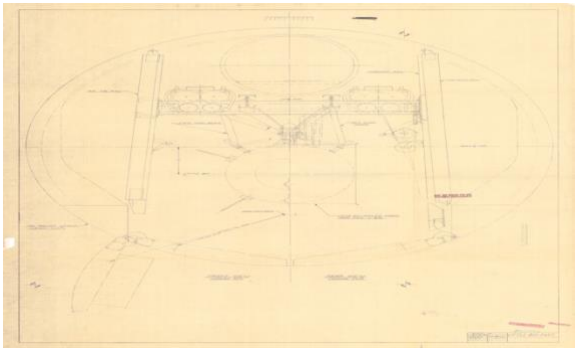
Tibbets concurred. "That's right. It has changed."

He and the crew of the Enola Gay were there to see it the moment it happened.

Box:
The full-length article is published in the summer issue of *National Security Science* magazine. Documents, films, photos, and more resources related to the World War II and the role of Los Alamos are part of the collections in the National Security Research Center, the Lab's classified library in the National Security Sciences Building.

1. Little Boy was a gun-type uranium weapon created by Los Alamos scientists and the first of two atomic bombs used in war.

2. Navy Captain William “Deak” Parsons, left, flew as the as the weaponeer on the Enola Gay that Colonel Paul Tibbets Jr., right, piloted. They were part of the 11-man crew that deployed Little Boy above Hiroshima, Japan. Parsons also helped prepare for the atomic bomb’s delivery by modifying the aircraft and conducting field tests.



3. The Enola Gay – a B-29 Superfortress – had to be positioned above a specially-built bomb loading pit to allow crews to load Little Boy into the aircraft’s bomb bay. On the morning of Aug. 6, 1945, the aircraft departed from Tinian island at 2:45 a.m. and released Little Boy at 8:15 a.m. on the city of Hiroshima, Japan.

4. Col. Paul Tibbets Jr. piloted the Enola Gay, a B-29 airplane that he named after his mother, who long supported her son's dream to fly.